

Chapter 5

Allowable Height and Area

504.2 Automatic sprinkler system increase. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum height is increased by 20 feet (6096mm) and the maximum number of stories is increased by one story. ~~These increases are permitted in addition to the area increase in accordance with Sections 506.2 and 506.3.~~ For Group R buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum height is increased by 20 feet (6096mm) and the maximum number of stories is increased by one story, but shall not exceed four stories or 60 feet (18 288 mm), respectively.

Exceptions:

1. Group I-2 of Type IIB, III, IV or V construction.
2. Group H-1, H-2, H-3 or H-5.
3. Fire-resistance rating substitution in accordance with Table 601, Note d.
4. This increase is not permitted in addition to the area increase in accordance with Sections 506.2 and 506.3.

Purpose/Rationale: (N) The additional safety that is provided by an automatic sprinkler system, has been acknowledged as justification for either increasing the allowable height of a building by one (1) story or increasing the allowable area beyond the limits established in Table 5-A, but not both. The proposed amendment is necessary because the IBC has changed the automatic sprinkler benefit to provide both an increase in the allowable height and allowable area of a building, without any basis for such change. Furthermore, the IBC does not require any additional protective features to mitigate the increase in potential risk associated with a building that is both taller and larger in area, thereby resulting in a potential decrease in public safety.

506.3 Automatic sprinkler system increase. Where a building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the area limitation in Table 503 is permitted to be increased by an additional ~~200~~100 percent ($I_s = 200$ ~~100~~ percent) for multistory buildings and an additional ~~300~~200 percent ($I_s = 300$ ~~200~~ percent) for single-story buildings. ~~These increases are permitted in addition to the height and story increases in accordance with Section 504.2.~~

Exceptions:

1. Buildings with an occupancy in Group H-1, H-2 or H-3.
2. Fire-resistance rating substitution in accordance with Table 601, Note d.
3. These increases are not permitted in addition to the story increases in accordance with Section 504.2.

Purpose/Rationale: (N) The additional safety that is provided by an automatic sprinkler system, has been acknowledged as justification for either increasing the allowable height of a building by one (1) story or increasing the allowable area beyond the limits established in Table 5-A, but not both. The proposed amendment is necessary because the IBC has changed the automatic sprinkler benefit to provide both an increase in the allowable height and allowable area of a building, without any basis for such change. Furthermore, the IBC does not require any additional protective features to mitigate the increase in potential risk associated with a building that is both taller and larger in area, thereby resulting in a potential decrease in public safety.

506.4 Area determination. The maximum area of a building with more than one story shall be determined by multiplying the allowable area of the first floor (A_a), as determined in Section 506.1, ~~by the number of stories as listed below.~~

1. ~~For two-story buildings, multiply by 2;~~
2. ~~For three-story or higher buildings, multiply by 3; and,~~
3. ~~No story shall exceed the allowable area per floor (A_a), as determined in Section 506.1 for the occupancies on that floor.~~

Exceptions:

1. Unlimited area buildings in accordance with Section 507.
2. ~~The maximum area of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.2 shall be determined by multiplying the allowable area per floor (A_a), as determined in Section 506.1 by the number of stories.~~

Purpose/Rationale: (N) Buildings having more than one (1) story have been acknowledged to be capable of supporting double the allowable area associated with the intended occupancy, provided any individual floor does not contain a greater area than what would be allowed for a single-story building. The proposed amendment is necessary, because the IBC has changed the multi-story allowable area increase to provide for a tripling (rather than doubling) of the area for buildings having three (3) or more stories, without any basis for such change. Furthermore, the IBC does not require any additional protective features to mitigate the increase in potential risk associated with a building that is larger in area, merely because it has more than two (2) stories, thereby resulting in a potential decrease in public safety.